Conditions Assessment

SOUTH EGREMONT VILLAGE SCHOOL

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ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

The South Egremont Village School is one of the last one room schoolhouses in continuous operation in the United States. Built in the heart of the National Register Historic District of the South Egremont Village, this original 1880 single story wood frame structure was built for utility and it has fulfilled its function well. It was a state of the art school room with large windows, maximizing day-lighting, and faced south to gather solar warmth in the winter months. These are passive principles of energy efficient design that are universal and sustainable. Over the years, the school has fulfilled a K-12 program to currently housing a fully subscribed K-1 program with a variety of changes installed to accommodate its educational function.

In December of 2013 CME Architecture, Inc. was contracted by the Town of Egremont to perform a conditions assessment and to develop a treatment plan for the School building. The study was funded by the Town in partnership with the Massachusetts Historical Commission through a Massachusetts Preservation Projects Fund grant. The CME team consisted of a historical architect, structural engineer, mechanical and electrical engineers, and preservation consultants each of whom surveyed the property to assess existing conditions in a noninvasive manner. The findings are presented in the body of this report as well as in the Appendix.

At present there are issues relating to the integrity of the structure that require immediate attention. Foremost is the sculpting of grade on the north face of the building to facilitate positive drainage away from the foundation. Once this work has been accomplished, the compromised wood sill, corner post and cladding on the north and west facades can be rehabilitated. Further building envelop work to provide a weather tight enclosure will include roof drainage systems, foundation repointing, cleaning of roof shingles and repair of deteriorated siding and trim.

Other recommended improvements within the building include upgrades to the fire alarm system, additional emergency lighting, installation of energy efficient lighting fixtures, plumbing fixtures and furnace. These recommendations are detailed in the individual reports found in the Appendix. The prioritized list of preservation recommendations outlines work such as grading, sill repair, foundation repointing, installation of roof drainage systems and cladding and trim repairs. A cyclical maintenance plan is also included in this report in order to assist the town in continuing to maintain the property in a systematic way that will insure its survival into the next century.

The Appendix also contains a report on accessibility recommendations and improvements that could be implemented to provide universal access to the main floor. The Massachusetts Building Code does allow for a historic building to not strictly comply with the code if alternative access can be provided. However, in the process of retrofitting the toilet rooms to be energy efficient, features could readily be installed that would provide universal access. The sensitive design of an exterior ramping system could provide access to the classrooms while maintaining the integrity of this National Register property.


Preservation Works!
South Egremont Village School
Conditions Assessment & Treatment Plan

CHRONOLOGY OF CONSTRUCTION, ALTERNATIONS AND USE HISTORY

The South Egremont Village School was built as a public elementary school around 1880 and has been in continuous use since. Today, it houses a K-1 program for the town of Egremont. The school is a 4 bay, single story structure, with attic and sits on a foundation made up of a variety of field stone, locally quarried marble and mortar. It was built using light frame construction also known as "balloon framing." Balloon framing began in the United States in the 1830's with the easy availability of standardized dimensional lumber. It is made up of many lightweight wall members called studs that are nailed together. The studs in a balloon frame can extend two stories from bottom sill to top plate. The first floor framing consists of 3" x 8" floor joists spaced at 16 inches on center.

Annual Reports of the Selectmen and Treasurer of the Town of Egremont from 1878 provide a glimpse into the educational experience of the students during its early period. The school originally was constructed with two rooms, front to back. The front (south) room was the Primary Room and the back room (north) was used as the Grammar Room. It was built with a center chimney and a wood stove as the original source of heat. A well was provided in 1885 to bring water to the school. A "dry toilet," or out house, were the earliest facilities. The "black boards" consisted of black paint over the plastered walls and required resurfacing regularly.

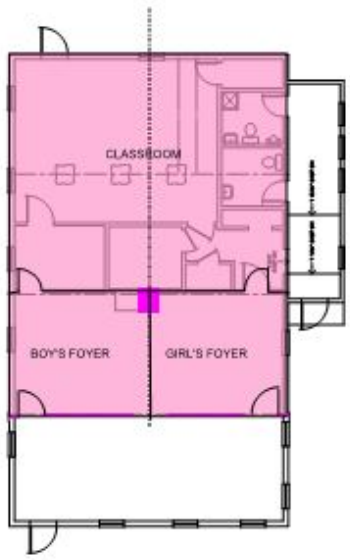
Changes were made over time to meet the needs of the school's educational goals. In 1900, the town voted to build "… an addition to the South Egremont Schoolhouse vestibule, for the purpose of storing school books and supplies." The School Committee reported in 1901 that the South School had "… been painted outside and inside … the walls frescoed and seats stained and varnished." Slate black boards eventually replaced the painted boards.

In 1913, the School Committee requested funds for "… the improvement of the condition for teaching in the primary room at South Egremont, by the building of an addition of about ten feet to the front of the building and enlarging the room." The ten foot addition was added the following summer. Physical evidence of this addition can be seen in the change of the foundation materials from quarried marble to fieldstone. Also, vertical trim boards suggest a break in the clapboard siding. A 1914 photograph shows students standing in front of the schoolhouse, which looks much as it appears today. [Image 22]

Improvements to the building continued throughout the 20th century as chemical toilets replaced out houses and electricity, and indoor plumbing and central heat were installed. A small addition was added to the eastern facade at mid-century and is used today as a hall and mudroom. All windows were replaced three years ago and doors have also been changed. The asphalt shingle roof was installed in 1998.

Original finishes are now covered by a dropped acoustic tile ceiling, 70's era paneling, sheet rock, carpet and floor tile. Investigation above the acoustic tile ceiling provided a glimpse of the original plaster ceiling and a bead board wall.

Today, the interior of the building consists of the main classroom, an art room at the rear with kitchen area, two bathrooms, several closets, and a furnace room.



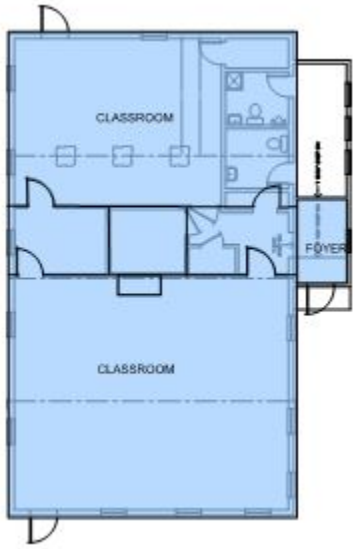


Figure 1 Figure 2 Figure 3

Figure 1 represents the original 1880 schoolhouse modeled after plans by Massachusetts educator Horace Mann, Secretary of the Board of Education and published in 1938 in the "Report of the Secretary of the Board of Education on the Subject of Schoolhouses". The shaded area has been overlayed on the current plan.

Figure 2 shows the classroom addition to the south (former front) of the building incorporating the foyers into a large classroom and adding a new foyer on the east along with support rooms running east to west outside the foyer.

Figure 3 shows the addition of a storage room on the east adjacent to the foyer as the Town voted to construct in 1901. It is unclear when the toilet rooms were constructed. There are former students who remember (and the physical evidence at the plaster ceiling level supports) a corridor from the south classroom door directly north to the central support spaces.

ARCHITECTURAL ANALYSIS OF INTERIOR, EXTERIOR AND SITE

This portion of the report provides a narrative description of the spaces within and outside of the building. Photographs referenced throughout the report are located in the Appendix A. Character-defining features, materials and finishes will be identified in the next section.

Interior

Access to the interior classroom space is gained through the original door opening on the southern side of the building. The front, southern, third or more of the building is taken up by the classroom [Image 19]. A contemporary acoustical tile ceiling conceals a plaster ceiling above as well as cornice molding and duct work. Walls are generally clad in paneling. The original wood window sash have been replaced by insulated vinyl windows. The floor is covered in wall-to-wall carpeting. A doorway on the west side of the room leads to a small office area where the floor covering switches to a resilient tile not unlike linoleum.

The large room on the other side of the small office area also has an acoustic tile ceiling, paneled walls, and resilient flooring. A six panel door with three light transom above provides an egress route at the northwest corner of the building. Kitchen appliances line an interior wall [Image 20]. A narrow closet is accessible to the east of this classroom, within a later addition, while another door leads to an interior space that connects with the front class room. The interior space also has a door way to a mechanical room and opening to the side of the building where a shed-roofed addition houses a more formal entrance, cubbies and toilet rooms. [Image 18]

The addition also has a resilient tile floor, a combination of paneling and sheet rock wall finishes, and sheet rock ceiling. The toilet rooms are single user rooms also incorporating a janitors sink.

A crawl space beneath the building is accessible through a floor hatch in the rear classroom. The shed roof addition attic is accessed through a relatively small opening in the ceiling of the boys' toilet room. Access to the main building attic is gained through a hatch in the southwest corner of the building which at the time of this survey was inaccessible.

Exterior

The Village School is a one-story, front-gabled structure. The plan is currently laid-out with a front classroom on the south, an intermediate utilitarian space consisting of office, mechanical and circulation space in the middle and another classroom to the rear. The gable ends of the building are relatively wide and the roof is pitched approximately thirty degrees, resulting in a tall attic space, roughly the same height as the ground floor [Image 1]. The principal façade faces the street (South elevation). There is a narrow, enclosed cross-gable entry porch combined with a lean-to extension with three awning windows of modern manufacture toward the

rear of the East elevation. The remaining windows on all elevations are double-hung 6/6 modern replacements. The windows are irregularly spaced, except for the front elevation. This is indicative of the utilitarian nature of the building as evidenced by an addition to the front of the building. Exterior doors are modern, flush-types except for an emergency exit door on the North elevation which opens to a neighboring yard. This door is wood with six raised panels and an operable hopper-type, three-lite transom above. Trim is kept to a minimum; flat water tables, corner boards, door and window surrounds, and frieze boards. The body of the building is comprised of painted clapboards. The roof has sloped eaves with enclosed soffits and is sheathed with asphalt shingles.

The South elevation is symmetrical and has four equally-spaced ground floor openings to the interior (from west to east, a steel door with vision panels followed by three windows). There is a large Italianate-styled attic window above. It has a semi-circular top and a bold semi-circular hood molding. It is in-filled with a batten-type panel with two crescent moon or apostrophe-shaped vent slots. The single Italianate window is the only design flourish in what is otherwise a purpose-built structure erected without stylistic considerations. The window is consistent with the building's 1880s origins [Image 2].

Physical evidence on the building exterior suggests that the building was extended over time. There are distinct changes in the foundation stone types consistent in location and type on both the East and West Elevations. At the same break in the foundation materials, there are vertical trim boards on both elevations that break the continuity of the clapboards suggesting corner posts of previous construction behind [Image 3].

The foundation of the building is primarily mortared field stone with salvaged white marble slab remnants interspersed in the rear three-quarters of the foundation [Image 4]. The foundation of the east side addition are cast-in-place concrete. There are cast concrete steps leading up to both south-facing doors.

Site

South Egremont Village School (42 Main Street) is sited on a small lot in the commercial zone of the Village of South Egremont, Massachusetts. It is a contributing member of the South Egremont National Historic District. The lot sits on a rise on the north side of Main Street (Route 23). It is flat except for the southern boundary which rises up from the street. The lot slopes gently down from north to south. There are a few ornamental shrubs and trees. Portions of the west side yard and front yard are paved with asphalt. The remainder of the lot is planted with grass. The long, rectangular building is laid perpendicular to the street at the distal end of the rectangular lot. There is no rear yard and roughly equal width side yards. The lot is bounded on all sides by fences of varying styles. There is a white picket fence at the front yard which runs parallel to the street. There are buildings directly to the east and west and a small open yard that continues to rise more steeply to the north. Trees from the adjoining lot are overhanging the north side of the building [Image 5].

CHARACTER-DEFINING FEATURES, MATERIALS AND FINISHES

Historic building fabric defines the heritage of our built environment and provides context. It gives a building character, texture and authenticity. Historic fabric is a term used quite regularly in the historic preservation world but defining it is not as easy as one might think. McGraw-Hill's Dictionary of Architecture and Construction defines historic fabric as "those portions of a building fabric that are of historic significance." It would be ideal to point to a definition supplied in the Secretary of the Interior's Standards for the Treatment of Historic Properties but one does not exist.

The Secretary's Standards do address significance, however, as it relates to tangible things like cornices and columns and they identify four strategies for effectively dealing with historic buildings: preservation, rehabilitation, restoration, and reconstruction. The first approach, preservation, is the most desirable and "places a high premium on the retention of all historic fabric through conservation, maintenance and repair." Further: "It reflects a building's continuum over time, through successive occupancies, and the *respectful* changes and alterations that are made."

Respectful is a relatively subjective term and, as it applies to a discussion about the value, significance or integrity of an architectural detail, more subjective still. Merriam-Webster defines respectful as "marked by or showing respect or deference." So, do respectful changes and alterations show deference to the original building? Perhaps not in style, as many nineteenth century buildings feature juxtaposed styles in the form of major alterations, but in the quality of the craftsmanship and the materials used. The dictionary's definition of deference as "a way of behaving that shows respect for … something" is unhelpful unless we view the term esoterically and, in this context, meaning that the newer work is of a quality and standard worthy of standing beside the original.

That would be a convenient conclusion, if not for the fact that the historic preservation world possesses a general aversion to the idea of altering historic buildings, and this inference would seem to indicate that new alterations and changes can be viewed as acceptable if the quality of work is very high. Old alterations and changes to buildings, dramatic as they may have been 100 years ago, are now deemed respectful because they, too, are ancient and reverent. The tangible item that is ancient is automatically awarded respect and shown deference because it is old, and as Ruskin would indicate, becomes sacred. Modifications and alterations to the building, no matter how dramatic they may have been then, are acceptable now and protected. It is the general recommendation of this study that the materials and systems of the building be preserved and changed as little as possible. Materials, features and finishes of significance are identified below.

Interior

The interior materials, features and finishes of the South Egremont Village School have been replaced wholesale over the course of the last 134 years. It is important to note that not all significant building fabric is immediately visible. Indeed, plaster ceilings and cornice moldings are covered by drop ceilings, wood floors are concealed by wall to wall carpet and vinyl tile, and plaster walls are behind paneling. [Images 18, 19, 20] Any future changes or alterations should plan for the careful preservation and restoration of these materials. There is a chair rail that ties into the window sills, as well as plain window casements, that may be original building fabric [Image 21]. Additionally, the rear door and transom are very old. Even if they are not "original," they are part of the respectful changes and alterations that were made to the building over time and care should be taken to preserve them. [Image 17]

Exterior

The building's history as a continuously-occupied public schoolhouse is significant to the local history of the Town and to residents' individual memories of the Town. The Italianate window and the stone foundation are architectural details that suggest how far back in time those memories go. The historical compulsion to maintain the building as a schoolhouse, as recorded in the original 1880 deed, and the process of modifying the building to accommodate population changes over time is part of local tradition. We believe that modern amenities must be incorporated into the existing structure in order to insure continued use as a public school. The introduction of modern amenities must respect the unique historic fabric of the building.

NARRATIVE DESCRIPTION OF INTERIOR AND EXTERIOR CONDITIONS

During the conditions assessments, the various systems of the building envelope were examined for present condition and performance. Each was evaluated in context relative to its importance as an element of the building envelope, assessed based on known, acceptable standards, and described according to subjective terminology. Loosely defined, these terms are:

Excellent the brief moment that a system is brand new or completely restored; this condition descriptor is symbolic only

Very good the next moment, after the new or restored system is completed; regular inspections will suffice until maintenance is required

Good a system that is functioning properly and routine maintenance is needed; painting, replacing slates and repointing masonry are maintenance tasks

Fair a system that is functioning adequately but work is needed, beyond routine maintenance, to improve system performance

Poor a system that is not functioning adequately; significant work will be needed to restore the system to an acceptable condition

Very Poor a system that is not functioning or absent; wholesale replacement of some or all of the components of the system are necessary

Using the above-described criteria for evaluating conditions, the various tasks to bring all systems to a 'good' or better condition are then described in detail in the *Recommendations* section. The recommendations are for historically appropriate treatments. The criticality of fully restoring each as a functioning element of a building system is also prioritized accordingly. The descriptors assigned to each should be viewed independently and are not assigned relative to importance.

Interior

This section of the report is typically lengthy as much of the older building stock evaluated by this firm has been the victim of deferred maintenance or possessed materials and systems that have outlived their useful service lives. That is not the case here as the school house building has been well-maintained and cared for. The various materials that comprise the walls, ceilings, floors, stairs, and doors are all found to be in fair or better serviceable condition. Continued maintenance and upkeep, discussed later in this report, will help prolong the service life of the interior materials and finishes.

Exterior

The building foundation and portions of the superstructure are in poor condition. The building walls, windows and doors are in poor to fair condition. The roof is in fair to good condition.

Approximately one-third of the top course of the west foundation wall has collapsed [Image 6]. The remaining stone foundation, with the exception of the south wall has little, if any, mortar left in the joints. The concrete east wall of the addition is severely eroded [Image 7]. The southeast corner of the sill is exposed where trim has deteriorated. [Image 8] There is significant deterioration in the rear one-quarter of the western wood sill and the sill is missing entirely at the northwest corner. The north foundation is not readily accessible without entering adjacent private property [Image 9].

The building has been painted many times throughout its history. Alligatoring and cracking of the paint is pervasive. The underlying paint layers in many areas are not adhered to the wood and can no longer support new paint. The paint must be removed, exposing bare wood. Clapboards, generally, appear to be sound except at the runs near the foundation where there is some rot, cracking, cupping, and deformation. There are a limited number of cracked boards in isolated areas over the entire exterior. Trim appears sound in the upper portions of the building and around windows and doors. It has rotted where near to or against the foundation on all elevations; particularly the water table and the corner boards. Of particular note is the northwest corner where sections have disintegrated entirely [Image 10]. Wood thresholds at the doors have disintegrated and are entirely missing [Image 11]. The metal door and windows are sound. The solid wood door on the North elevation appears sound yet the plywood door at the Entry Porch is de-laminating.

Asphalt shingles appear to be in good condition except for heavy biological growth on the east side of the main building and shed roof addition and the north side of the Entry Porch [Image 12]. The moss holds water against the shingles which accelerates their deterioration. The exposed section of the chimney appears to be well pointed and the flashing appears to be sound. There is surface-applied flashing where the cross gable roof of the Entry Porch intersects with the clapboards of the main building.

The roof has K-type aluminum gutters around the entire perimeter. As previously described, the roof has a large surface area; gutters seem to be undersized and appear inadequate to handle the roof run-off. Most damage to the wall surface, including paint loss and wood rot, has occurred below the gutter over the lean-to on the east side. In addition, the gutters are leaking at the joints and the leader outlets [Image 13].

The most severe damage to the building foundation and superstructure appears to be occurring where the roof leaders discharge the rain water [Image 14]. The leaders have no splash blocks with which to disperse and direct away water from the building. At the northwest corner, the roof leader is discharging large quantities

of water directly against the wood building elements above the foundation [Image 15].

Contributing Site Factors

It appears that soil and organic debris from trees and grass is accumulating at the north side of the site and against the building to the point of raising the ground level near to or above the top of the stone foundation (it is also possible that the building was improperly planned initially). This is dramatically affecting site drainage and is probably contributing to the severe erosion of the concrete at the northeast corner and the collapse of the foundation at the northwest corner [Image 16].

Causes of Deterioration

The causes of deterioration are age and precipitation. Traditional masonry construction relies on mortar to unify individual units such as brick into a homogenous whole. The mortar acts as a sacrificial component of the construction by allowing moisture from rain to drain through it and out of the brick. Over time, the mortar joints need routine maintenance in the form of repointing to continue to keep the building envelope water-tight.

Paint coatings act in a similar way in that they protect the wood from moisture and deterioration from UV radiation. The paint film requires routine touch-up to protect the underlying wood. The roof of the building directs concentrated amounts of water against the facades and building foundation. This condition has accelerated the deterioration of the mortar, stone, wood and paint. Additionally, it has undermined the sub-structure and grade and caused deterioration of the wood and masonry components of the envelope. It is imperative that deficiencies in the roof drainage system are corrected.

A view looking northwest in the attic at the former end wall of the school prior to the addition to the south that created a second classroom. Note the shadow of the present decorative attic access shutter which has been reinstalled on the new south façade.

OVERVIEW OF APPROACHES TO TREATMENT

The Secretary of the Interior provides four distinct but interrelated approaches to the treatment of historic properties. Each is defined, below, so that the recommendations of this conditions assessment can be weighed and considered in context:

Preservation focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time;

Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character;

Restoration is undertaken to depict a property at a particular period of time in its history, while removing evidence of other periods; and,

Reconstruction re-creates vanished or non-surviving portions of a property for interpretive purposes.

The general recommendation of this report is to preserve and maintain the building as it appears. This means replacement of elements of the various systems that have outlived their useful life. As an example, if the sheet metal roof flashings are approximately 75 years old and allowing water infiltration then they must be replaced. But they must be replaced in kind, with the same sheet metal material and installed in the same form and dimension as the details and assemblies it replaces.

The issue of mortar joint deterioration with the masonry foundation, and paint and wood failures with the threshold carpentry and trim may be exacerbated by the poor condition of the roof or the drainage system. For that reason, we are recommending the replacement of the gutters. The photo appendix to this report will clearly illustrate the conditions described herein and the course of action outlined within this document will address these issues in an appropriate manner. All recommendations are in accordance with Secretary of the Interior's Guidelines for the Treatment of Historic Properties set forth by the National Park Service of the U.S. Department of the Interior.

Tree trimming, re-grading, installation of a subsurface drainage system, foundation restoration, sill replacement and trim repair are necessary priorities on the west side of the building.

SPECIFIC RECOMMENDATIONS

Roofing and Gutters

The current asphalt shingle roof is not original to the structure. It is likely that wood shingles covered the building in the 1880s when it was built. Wood shingles, like slate and clay tile, make roofs water tight, not air tight. Asphalt shingle materials tend to last twenty years on older building stock because of the passive ventilation that characterizes such buildings.

If funding is available when the time comes to replace the roof, the historically appropriate material choice is 18" blue label, random width, Western red cedar shingles with 5.5" exposure. Cedar shingles on buildings like this will last for thirty years or more. Cost estimates should include all side and end wall detail work, flashing of protrusions, and disposal of old roofing materials.

To combat the uncontrolled rain water runoff, 6" k-style copper gutters should be installed along the eaves of the structure. Copper is recommended because it is a sustainable material and historically appropriate. Slip tubes and conductor pipes should be installed at the ends of each gutter run. When calculating drainage capabilities, one square inch of outlet opening is required for each 100 SF area of roof surface being drained. Hence, 4" outlets are more than adequate as each can service 1,250 SF of roof surface area. Copper wire strainers should be installed at each outlet and checked biannually. If the strainers are maintained and allowed to perform their intended function cleaning the gutters will be limited to the troughs. Otherwise, leaves and debris will find their way into and clog the conductor pipes. If not maintained, gutters will do more harm than good. The introduction of gutters will require a commitment to maintenance of the system.

Foundation

Empty or failing mortar joints should be repointed as needed. The mortar should be tested for composition and appropriate recipe specified for repointing according to ASTM C-1324-03 Standard Test Method for Examination & Analysis of Hardened Masonry Mortar by a qualified materials conservator. The material must also be sympathetic in texture, color, strength and appearance to that in adjoining areas.

Prior to wholesale use of the new replacement mortar, a mock-up sample should be installed by a qualified craftsperson who understands the curing and application details of restoration masonry work. Once the mock-up sample is installed, appropriate precautions should be taken to ensure that the mortar is protected from wind, sun, rain and frost to enable slow curing to take place. The sample should be allowed to cure in the wall for a minimum of seven but preferably fourteen days before final color match is approved.

The failing and deteriorated mortar joints should be cleared by skilled masons with hand tools—not grinders and powered chisels. Joints should be cleared to a depth of roughly twice the height or width of the opening (i.e., a 3/8" joint should be ¾" deep before repointing takes place.) The mortar should be tooled into the joints in

¼" lifts and allowed to set up until pressing with force is required to leave a fingerprint. Joints should be struck flat, revealing slightly the edge of the facing stone. Any mortar or residue left behind should be cleaned with a brush or sponge and clean, warm water. The new work should be protected from direct sunlight as it cures. Dampened burlap works well to shade the surfaces, and should be wetted regularly to prevent drying out.

At one location on the east side, a large section of concrete has deteriorated and fallen away. This section should be repaired in lifts with an appropriate concrete wall patching compound.

Landscape

Excavate and lower exterior grade along the rear of the building to provide a minimum clearance of 8" to the wood siding and framing. This effort will require coordination with the neighboring property owner as the property line is coincident with the rear face of the school building.

Tree trimming on the east side of the building will allow for increased light and circulation of air that will aid in the drying of roof systems that are currently damp and wet, allowing for the growth of damaging moss and algae. The trees in question are on the neighboring property and their trimming must be coordinated with the property owner.

Accessibility improvements will necessitate paving a parking area for a van loading zone as well as a walkway from the parking area to the new ramp system. Landscaping may be warranted to screen the ramp so that it does not deter from the historic aspect of the building.

Cladding and Trim

Cracked, split, checked, and broken clapboards should be replaced in kind, especially at the lower levels below the windowsills. Boards that are slightly cupped and lifting can be reused after removing all protruding nails, filling holes and reinstalling clapboards using stainless steel, ring shanked nails.

Fascia, soffit, frieze, brackets, panels, moldings and other wood members must be scraped, sanded, primed, and painted. All actions that involve the handling of wood must be performed in full compliance with the EPA's Renovation, Repair and Painting (RRP) regulations by a certified contractor if testing detects the presence of lead. Wooden architectural materials must be replicated in kind with a sustainable wood material.

Azek® and similar PVC composite materials are not acceptable according to the Secretary of the Interior's Standards as in kind materials are commercially available. Best practice generally dictates the specification of Spanish cedar or similar species. All wooden elements and the butt ends of scarf joints must be primed and painted on all sides before installation. Stainless steel finish screws are

the preferred choice for exterior wood details. The second, final coat of paint should be applied to new work and repairs during acceptable weather conditions.

Windows

The original wood sash of the fenestration was replaced in 2011. There is no repair method for vinyl or PVC composite windows when they fail. When failures occur the entire unit must be replaced. Historically accurate wood window sash in the original openings would be the appropriate choice when the vinyl windows reach the end of their useful life.

Paint

Paint color analysis should be conducted for wood siding, trim, casings, windows, and doors to determine original color scheme. All actions that involve the handling of wood must be performed in full compliance with the EPA's *Renovation, Repair and Painting* (RRP) regulations by a certified contractor if testing detects the presence of lead.

When necessary, all paint must be removed to bare wood because the original oil-based coating has alligatored and is holding moisture against the wood. In order to protect the original historic fabric, the least abrasive method possible must be used for paint removal. Pressure washing and sandblasting are inappropriate methods of removal. After paint removal, apply a high quality oil primer followed by two coats of exterior latex paint.

Chimney

Chimneys should be kept clear of paint and biological materials, being careful to use appropriate low acid/alkali cleaners and lowest abrasive method possible whenever cleaning is necessary. Deteriorated bricks must be replaced with new brick similar in dimension and appearance. Mortar analysis should be conducted so that repointing work will employ the use of a mortar that matches the original. Rebuilding and repair of the chimneys should be coordinated with the roofing work to ensure that the protrusions are flashed correctly and with historically appropriate materials such as copper.

Structural

The report of structural conditions prepared by The DiSalvo Ericson Group notes that the building structure is in generally fair to good condition. However, there are several areas where repair is required in the short term. The area of primary deterioration is along the north exterior wall and the northeast corner of the building. In these areas, the earth has encroached upon the structure, damaging the sills and the exterior sheathing. The report recommends lowering the grade and replacing the sills and sheathing in kind. Some reconstruction of the fieldstone foundation is required in the northwest corner and the entire foundation should be repointed to insure the integrity of the structure and the building envelope.

Mid span interior stone piers were observed at the main first floor beams. The piers are dry laid and should be replaced with a conventional pier foundation and footing. This replacement will require removal of the floor finishes in order to gain access from above as the crawl space is inaccessible from any other means.

The noticeable dip in the Main Level floor at the northwest corner of the front classroom should be further investigated by removing the floor sheathing to observe the condition of the framing directly below this location. Timber repairs will include the use of structural epoxy and reinforcing dowels to splice and connect timber members, supplemental framing to "sister" the member or reduce the span, and bolted steel plates to strengthen timber connections.

The condition of the attic is that it is dry and the framing and roof sheathing in good condition. Chimney repointing below the roof is recommended in the report.

Other recommendations in the report include adding insect screening to the interior of the decorative wood door on the south gable end of the building as the moon shaped cut outs provide direct access to the attic for insects, bats and birds although there was only minor evidence of such at the time of this inspection. The engineer recommends determining the viability of a lightning protection system and scheduling periodic inspection for insect damage.

Mechanical and Electrical Systems

Salamone & Associates, PC inspected the mechanical, electrical and fire safety systems in the building and compiled a report that is presented in the Appendix of this document. In summary, the report suggests upgrades to all systems. The replacement of the furnace, breeching and thermostats is the primary recommendation for short term improvement of the mechanical system and the Town of Egremont is currently addressing this issue.

The report recommends replacement of all of the existing plumbing fixtures, including those in the toilet rooms and in the kitchen, with low consumption, energy efficient models. Replacement of the toilet room fixtures should be done in concert with the creation of accessible toilet facilities.

Electrical system upgrade recommendations include replacement of the existing fire alarm system to include a carbon monoxide monitoring system. Additional emergency and egress lighting units are also recommended to meet current code. Ceiling mounted fluorescent lighting fixtures should be replaced with energy efficient models. A security system is recommended as well as additional power receptacles, telephone outlets and light switches.

PRIORITIZED TREATMENT RECOMMENDATIONS

Emergency (1-2 years)

Structural stabilization

1. Regrade the north and northwest elevations to clear earth from the structure and promote drainage away from the structure.
2. Repair dislocated foundation stones in this area.
3. Replace damaged sills in this area.
4. Install new footings in place of the existing stone piers.
5. Repair timber floor framing in the northwest corner of the south classroom.

Exterior stabilization and rehabilitation

1. Trim trees on the east and west sides of the building.
2. Redirect roof drainage system away from the building.
3. Remove biological growth on the asphalt shingles on the east side.
4. Replace damaged clapboards on the north and northeast facades.

Occupancy

1. Replace the furnace, breeching and thermostats. (In progress)

Other

1. Install insect screening in the attic at the decorative door.

Short Term (3-5 years)

Structural stabilization

1. Repoint chimney below the roof line.

Exterior stabilization and rehabilitation

1. Repoint the foundation.
2. Replace miscellaneous clapboards and trim as necessary.

Interior stabilization and rehabilitation

1. Insure that insulation is continuous above the ceiling plane.

Occupancy

1. Replace toilet room fixtures while implementing ADA compliance.
2. Insulate piping
3. Install a new fire alarm system with carbon monoxide monitoring.
4. Replace lighting fixtures with energy efficient models.
5. Install a security system.
6. Provide additional emergency and egress lighting systems.
7. Add receptacles, telephone jacks and light switches.

Other

1. Provide an accessible exterior route to the building and renovate the interior to be on one floor level.

Long Term (5 – 10 years)

Exterior stabilization and rehabilitation

1. Repaint the exterior.
2. Replace the shingle roof.

These recommendations have been compiled from the conditions assessments of all of the consultants including architectural, structural, mechanical, electrical and plumbing. Budget cost estimates for this work follows.

ESTIMATE OF COSTS

Estimates of cost assume that all work is performed by a DCAM certified contractor at prevailing wage rates in compliance with the Davis-Bacon Act. The estimates include the costs to perform the itemized tasks and 20% for a general contractor's fee. An additional 20% has also been identified to account for the costs of an architect and/or engineer's design services but are not included in the overall costs in this construction budget. Design fees can fluctuate by 5% or more and will tend to be higher if the work is phased over time as opposed to a single project.

Similarly, each time a contractor mobilizes there will be associated startup costs and contracting for multiple projects will cost more than a single project. Labor costs were calculated and based on published data in the R.S. Means Guides for commercial construction. Labor rates were then adjusted to the prevailing local wage rates for each task. It should be noted that the Means Guide indicates that a 25% increase in labor pricing should be added for restoration work. Further, there is a scarcity of contractors who are skilled and trained to successfully undertake historic preservation projects.

A 10% contingency was factored in to account for unforeseen conditions that are typically uncovered during the restoration of historic properties. Access costs (i.e., lifts, scaffolding) and markup for overhead and profit are collapsed into the prices below. Material and labor costs are not constant and are subject to uncontrollable economic conditions. Tax rates and workers compensation insurance rates show no sign of decline. The costs projected in this construction budget will increase 3-5% with each passing year.

Emergency Term (1-2 years)

Structural Stabilization

1. Regrade the north and northwest elevations $4,800
2. Repair dislocated foundation stones 3,200
3. Replace damaged sills 22,000
4. Install new footings 6,000
5. Repair timber floor framing 4,000

Exterior stabilization and rehabilitation

1. Trim trees (by Town forces)
2. Redirect roof drainage 14,600
3. Remove biological growth (by Town forces)
4. Replace damaged clapboards 1,500

Occupancy

1. Replace the furnace (In progress and estimated at $7,000)

Other

1. Install insect screening in the attic (by Town forces)

Subtotal of Emergency Term $56,100

Short Term (3-5 years)

Structural stabilization

1. Repoint the chimney	$4,000

Exterior stabilization and rehabilitation

1. Repoint the foundation	7,200
2. Replace clapboards	10,400

Occupancy

1. ADA toilet rooms	20,000
2. Insulate piping	1,000
3. Install a new fire alarm system	7,500
4. Replace lighting and emergency fixtures	8,000
5. Install a security system	3,000
6. Add receptacles, etc.	4,000

Other

1. Provide an accessible exterior route to the building and renovate the interior to be on one floor level	30,000

Subtotal of Short Term *$95,100*

Long Term (5 – 10 years)

Exterior stabilization and rehabilitation

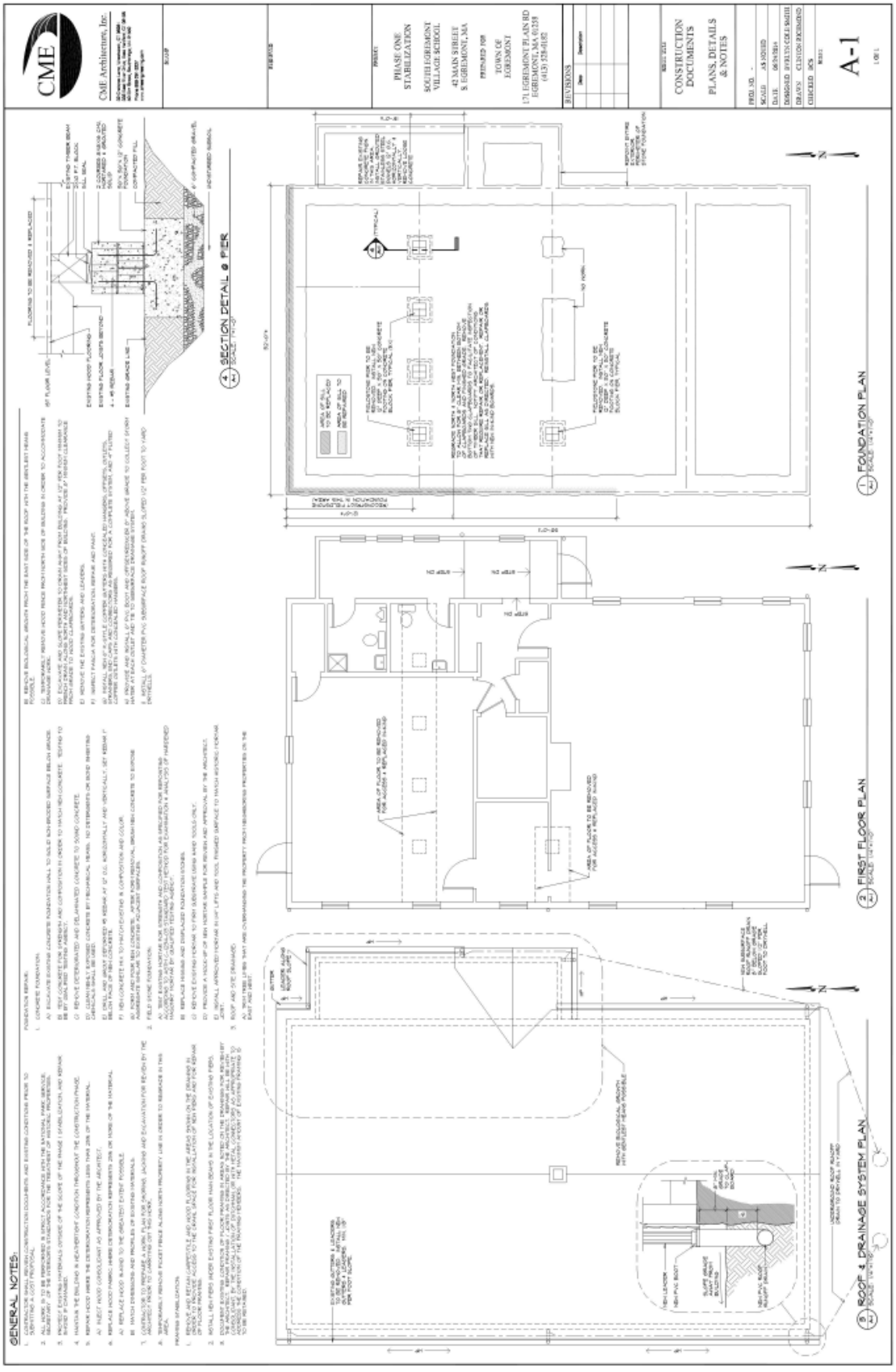
1. Repaint the exterior	26,000
2. Replace the shingle roof	54,000

Subtotal Long Term *$80,000*

CONSTRUCTION DOCUMENTS FOR EMERGENCY TREATMENT

Construction documents for immediate treatments have been developed in order to facilitate the repair of primarily structural elements including the strengthening of first floor beams by adding structural piers and the repair of first floor timber framing joints and framing members. Additional work is detailed with regard to re-re-grading, roof drainage systems, sill replacement and repairs to damaged trim.

All recommendations are in strict accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.


GENERAL NOTES:
CME Architects, Inc
PHASE ONE STABILIZATION
SOUTH EGREMONT VILLAGE SCHOOL
42 MAIN STREET S. EGREMONT, MA
PREPARED FOR TOWN OF EGREMONT
171 EGREMONT PLAIN RD EGREMONT, MA 01239 (413) 528-6182
CONSTRUCTION DOCUMENTS
PLANS, DETAILS & NOTES
A-1
SECTION DETAIL @ PIER
ROOF & DRAINAGE SYSTEM PLAN
FIRST FLOOR PLAN
FOUNDATION PLAN

MAINTENANCE

The most important component of any plan to preserve a historic structure is maintenance. As soon as a building is constructed or rehabilitated, the natural process of deterioration begins. Preservation has been defined as "the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the on-going maintenance and repair of historic materials and features rather than extensive replacement and new construction." (National Park Service, Nationwide Programmatic Agreement Toolkit for Section 106 of the National Historic Preservation Act, glossary of terms)

Regular inspection and maintenance of systems will help preserve the integrity of historic building fabric. If that fabric is maintained, deterioration will be minimized or eliminated. Maintenance is the most cost effective method of extending the service life of a building system. By logical extension, maintenance is the key to preservation. While the decay of components of the envelope cannot be avoided, neglect can actually cause this process to increase at an exponential rate. The use of the wrong materials and methods will often cause worse damage to irreplaceable historic building fabric. Every historic structure, no matter how small, should have a written guide that includes:

- Lists and schedules for periodic inspections of each system. These should be set-up in a 'checklist' format, to ensure uniformity of procedures over time;
- Blank elevations of the building to be marked up during inspections and after any work takes place;
- A full set of actual photographs that comprehensively document the conditions of the entire structure as well as a digital copy of each. This album will grow over time;
- An emergency list of contractors who can be called upon in an emergency, especially HVAC, electrician, plumber, and roofer;
- Individualized procedures for the historically appropriate handling of the individual systems and materials of the building; and,
- Hard copies of completed reports that document all work and inspections. Include copies of estimates, contracts, warranty cards, paint colors, mortar recipes, materials sources, and any other information that will be needed by future stewards of the structure.

When considered in the long term, the cost to maintain historic structures is significantly less than the restoration of historic systems and materials, and it creates far less disruption to building occupants. When a property owner or manager creates a maintenance program for their building, it is strongly recommended that they seek the counsel of a preservation consultant, and/or experienced contractor. The maintenance program should clearly identify and describe courses of action that are specific to the building.

Cyclical Maintenance Plan for South Egremont Village School

Inspections after a weather event

- Using binoculars inspect the roof shingles for loss of shingles and damage to flashings. Replace or repair as required.
- Inspect the attic for water infiltration and structural integrity.
- Inspect the crawl space for water infiltration.
- Insure that gutters and leaders are not clogged with debris.
- Inspect glazing for breakage. Replace as necessary.
- Remove tree debris from structure and around the building.

Semi-annually

- Remove algae growth from building materials with the gentlest cleaning means possible.
- Inspect caulking and weatherstripping at doors and windows. Replace as necessary.
- Inspect gutters and downspouts to insure that they are secured to the structure and are clear of debris.

Annually

- Insure that painted finishes are intact and protecting substrates. Touch up paint as required.
- Inspect mortar joints in stone foundation. Repoint with historically appropriate mortar mixture.
- Inspect condition of foundation stone for cracks and spalling. Repair as required.
- Inspect chimney flashing. Replace if needed when roof is replaced.
- Inspect exterior wall surfaces for damage caused by moisture, structural stress or insects. Repair as condition warrants.
- Insure that light fixtures, signage and any other building mounted objects are secured to the structure and in good condition.
- Inspect the structure for insect damage and treat as necessary by a qualified pest control company.

CODE REVIEW

Applicable Codes

2009 International Building Code
2009 International Existing Building Code
2009 International Mechanical Code
2009 International Energy Conservation Code
Massachusetts Amendments
Board of Fire Prevention Regulations (527 CMR)
Board of State Examiners of Plumbers an Gas Fitters (248 CMR)
Massachusetts Electrical Code (527 CMR 12.00)
Architectural Access Board (521 CMR)
ICC A117.1-3 Accessible and Usable Buildings and Facilities

Existing Occupancy:

Use Group E: Educational

State Building Code Review

Chapter 34: Existing Structures
3401.1 Scope. Chapter 34 of the International Building Code 2009 is deleted in its entirety. The alteration, repair, addition, and change of occupancy of existing buildings shall be controlled by the provisions of the International Existing Building Code 2009 and its appendices, and as modified with Massachusetts Amendments.

Chapter 11: Accessibility
1101.1 Scope. In accordance with MGL c.22, paragraph 13A, all public buildings shall be designed to be accessible to, and functional for use by, physically disabled persons, and conform to the requirements of 521 CMR…which shall be enforced by the building official or the state inspector, as applicable.

521 CMR: Architectural Access Board (effective July 27, 2006)

3.00: Jurisdiction

3.9 Historic Buildings
An historic building or facility that is listed or is eligible for listing in the National or State Register of Historic Places or is designated as historic under appropriate state or local laws may be granted a variance by the Board to allow alternate accessibility. If a variance is requested on the basis of historical significance, then consultation with the Massachusetts Historical Commission is required in order to determine whether a building or facility is eligible for listing or listed in the National or State Register of Historic Places. The Massachusetts Historical Commission may request a copy of the proposed variance request and supporting documentation to substantiate the variance request and its effect on historic resources. A written statement from

the Massachusetts Historical Commission is required with the application for variance.

CME Comment:
The South Egremont Village School building is not code compliant for Universal Accessibility. The Building is listed in the Inventory of Historic Assets of the Commonwealth and is further included in the South Egremont Village National Register Historic District. This recognition of historic status enables the Town to apply to the Architectural Access Board for a variance that would allow alternate accessibility (such as providing services at an alternate location) that is not fully compliant with 521 CMR if full compliance is not achievable.

International Existing Building Code 2009 (IEBC)

The 2009 International Existing Building Code will serve as the basis for code review. This code allows historic properties, those recognized as such by the State or National Register of Historic Places, some flexibility as far as full compliance with current codes. Any new construction must meet current code however. Section 308, Historic Buildings, states that "the provisions of this code relating to the construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard".

Accessibility

The school building will not be undergoing a "change of occupancy" or building additions that would trigger full code compliance of all components of the structure. However, the codes will require compliance to the greatest extent possible to provide the following with regard to universal access.

- At least one accessible building entrance
- At least one accessible route from an accessible building entrance to primary function areas.
- Signage complying with Section 1110 of the International Building Code.
- Accessible parking, where parking is being provided.
- At least one accessible passenger loading zone, when loading zones are provided.
- At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.
- Where toilet rooms are provided, the room shall comply with the standards for an accessible family or assisted-use toilet room. The toilet room shall be on an accessible route.

All of these accessibility requirements are achievable in the existing building without disturbing the character defining features or building fabric. Access to the primary building function areas must connect exterior parking to interior spaces along an accessible route.

A van accessible parking space can be accommodated on site in the area of current parking, however this area of the existing gravel parking area will need to be paved and graded. A new paved path of travel from the parking area to the new accessible ramp will need to be developed as well. The new ramp should be oriented to minimize its impact from the road while still serving as a primary entrance to the facility. The preferred access point is the east entrance, adjacent to the play yard, which empties into a mudroom, cubby area and is adjacent to the toilet rooms.

The floor level within the rear addition will need to be raised to the level of the classrooms as there is currently a 7" step between the two. Installing a new floor level will necessitate removing the existing south entry door and reframing it at the higher floor level.

Other Code Considerations

The International Existing Building Code devotes Chapter 11 to Historic Buildings and how these buildings may be repaired or altered in a safe way that allows for reuse of the building. The major points of this chapter include the following:

1. Section 1101.2: The code official shall determine if a report by a design professional is required to show that safety features are in compliance with the intent of this code. This may entail a study of load paths through the building with regard to seismic design, and it may "demonstrate how the intent of these provisions is complied with in providing an equivalent level of safety."

2. Section 1102 Repairs: Repairs to any portion of a historic building or structure shall be permitted with original or like materials and original methods of construction, subject to certain provisions.

3. Section 1102.5 Replacement: Replacement of existing or missing features using original materials shall be permitted. Partial replacement for repairs that match the original in configuration, height, and size shall be permitted. Safety glazing is the exception which requires full compliance with the International Building Code.

4. Section 1103 Fire Safety: Historic buildings undergoing alterations, changes of occupancy, or that are moved shall comply with Section 1103. Section 1103.12 further states: "Every historical building that cannot be made to conform to the construction requirements specified in the International Building Code for the occupancy or use, and that constitutes a distinct fire hazard shall be deemed to be in compliance if provided with an approved automatic fire extinguishing system." The code official may approve an alternative life-safety system.

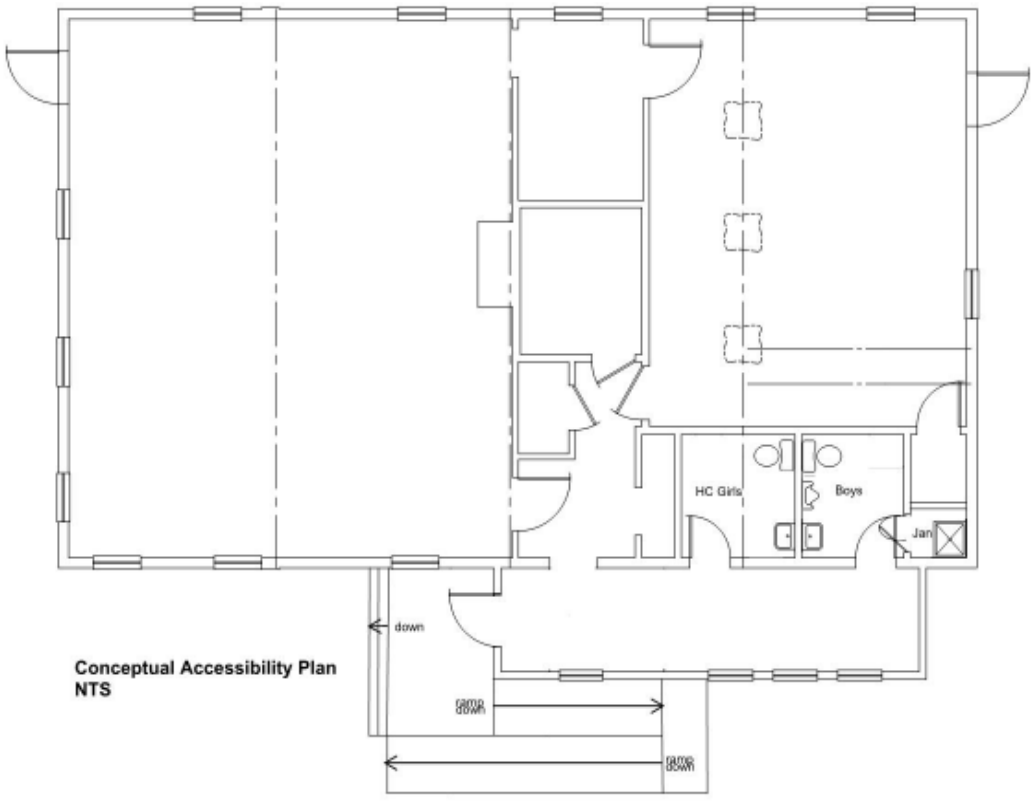
The majority of work recommended in this report consists of repairs to the existing structure, accessibility and mechanical systems improvements. Any new additions such as an exterior access ramp, and interior alterations consisting of accessible

toilet facilities and floor leveling will be code compliant. As such, the IEBC allows for the following:

> Repairs: Repairs shall be done in a manner that maintains the level of fire protection, of protection provided for the means of egress, and the level of accessibility.
>
> Alterations: Alterations shall comply with the requirements of the International Building Code for new construction.

Both of these stipulations are readily achievable.

In summary, the IEBC allows for certain flexibility with regard to historic buildings such as the South Egremont Village School. Compliance with universal accessibility provisions is achievable at this property, although it will require alterations which can be made compliant with current building codes for new construction.



REFERENCES

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Massachusetts Historic Commission, Form B, MACRIS EGR-44

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Mann, Horace. Report of the Secretary of the Board of Education on the Subject of Schoolhouses. Boston. 1838

SMACNA. Architectural Sheet Metal Manual. Sixth Edition

South Egremont Building Evaluation, performed by EDM of Pittsfield (2006)

South Egremont School House Study, prepared for the Select board of Egremont (2007)

US Environmental Protection Agency. Renovation, Repair and Painting (2010)

Weeks, Kay D., and Grimmer, Anne E. The Secretary of the Interior's Standards for the
Treatment of Historic Properties with Illustrated Guidelines for Preserving, Rehabilitating,
Restoring, and Reconstructing Historic Buildings. Washington, D.C.: U.S. Government Printing Office, 1995

APPENDIX A
PHOTOGRAPHIC DOCUMENTATION

Image 1: The gable ends of the building are relatively wide and the roof is pitched approximately 30 degrees creating a tall attic space roughly the same height as the ground floor. (South Egremont Village School, January 2014)

Image 2: The single Italianate window is the only design flourish in what is otherwise a purpose-built structure erected without stylistic considerations. The window is consistent with the building's 1880's origins. (South Egremont Village School, January 2014)

Image 3: At the same break in the foundation materials, there are vertical trim boards on both east and west elevations that break the continuity of the clapboards confirming the 10’ addition to the south. (South Egremont Village School, January 2014)

Image 4: The foundation of the building is mortared stone. It is mostly field stone with salvaged white marble slab remnants in the rear three-quarters of the foundation. (South Egremont Village School, January 2014)

Image 5: The lot is bounded on all sides by fencing of varying styles. There is white picket fence at the front yard which runs parallel to the street. There are buildings directly to the east and west, and a small open yard that continues to rise more steeply to the north on an adjacent property. Trees from the adjoining lot are overhanging the north side of the building. The school is just to the northeast of the pin head. (South Egremont Village School, January 2014)

Image 6: Approximately one-third of the west foundation wall is in need of repair. The remaining stone foundation, with the exception of the south wall has little, if any, mortar in the joints. (South Egremont Village School, January 2014)

Image 7: The concrete east wall of the circa 1900 addition is severely eroded. (South Egremont Village School, January 2014)

Image 8: The sill is exposed at the southeast corner of the building and trim will require repair. (South Egremont Village School, January 2014)

Image 9: The north elevation forms the property lint at the rear of the building. Soil has built up against the building compromising the lower wood trim and possibly the sill. (South Egremont Village School, January 2014)

Image 10: Trim has rotted where near to, or against grade particularly the water table and the corner boards at the northwest corner where sections have disintegrated entirely. (South Egremont Village School, January 2014)

Image 11: Wood thresholds at the doors have been compromised and require repair. (South Egremont Village School, January 2014)

Image 12: Asphalt shingles appear to be in good condition except for heavy biological growth on the east side of the main building and lean-to and the north side of the entry porch. (South Egremont Village School, January 2014)

Image 13: Most damage to the wall surface, including paint loss and wood rot, has occurred below the gutter over the lean-to on the east side. In addition, the gutters are leaking at the joints and the leader outlets. (South Egremont Village School, January 2014)

Image 14: The most severe damage to the building foundation and superstructure appears to be occurring where the roof leaders discharge the rain water. (South Egremont Village School, January 2014)

Image 15: The leaders have no splash blocks with which to disperse and direct water from the building. At the northwest corner the roof leader is discharging large quantities of water directly against the wood building elements above the foundation. On the northeast corner, water discharge has led to wetting of the foundation and spalling of the foundation during the freeze / thaw cycle. (South Egremont Village School, January 2014)

Image 16: Soil and organic debris from trees and grass is accumulating at the north side of the site and against the building to the point of raising the ground level near to or above the top of the stone foundation (it is also possible that the building was improperly sited initially). This is dramatically affecting the site drainage and is probably contributing to the severe erosion of the concrete at the northeast corner and the collapse of the foundation at the northwest corner.
(South Egremont Village School, January 2014)

Image 17: The rear door and hopper style transom are very old. Even if they are not "original" they are part of the respectful changes and alterations that were made to the building over time and care should be taken to preserve them.
(South Egremont Village School, January 2014)

Image 18: The interior space also has a doorway to a mechanical room and opening to the side of the building where the shed-roofed addition connects to the bathrooms. (South Egremont Village School, January 2014)

Image 19: The front third or more of the building is taken up by the classroom. (South Egremont Village School, January 2014)

Image 20: The room on the other side of the small computer area also has a suspended acoustic tile ceiling, paneled walls, and resilient flooring. There are kitchen appliances against and interior wall. (South Egremont Village School, January 2014)

Image 21: The chair rail ties into the window sills, as well as plain window casements, and may be the sole-remaining threads of the original building fabric. (South Egremont Village School, January 2014)

Image 22: A 1914 photograph shows students standing in front of the schoolhouse, which looks much as it does today. (South Egremont Village School, January 2014)

APPENDIX B STRUCTURAL CONDITIONS SURVEY

REPORT OF STRUCTURAL CONDITION SURVEY

SOUTH EGREMONT VILLAGE SCHOOL
42 MAIN STREET
SOUTH EGREMONT, MA

Prepared by
The Di Salvo Ericson Group
Structural Engineers, Inc.
63 Copps Hill Road
Ridgefield, CT 06877
(203) 438-9581
www.tdeg.com

Project No. 13365.00
January 31, 2014, *Revised June 20, 2014*

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INTRODUCTION AND EXECUTIVE SUMMARY

The Di Salvo Ericson Group was retained by CME Architecture, Inc. of Woodstock, CT to review the general condition of the structural elements of the South Egremont Village School on 42 Main Street in South Egremont, MA. The purpose of the review was to determine the suitability for future use of the building, identify structural deficiencies, and recommend requirements for the repair of the conditions noted.

The investigation consisted of a walk-around survey of the exterior of the building and the accessible portions of the interior, including a limited portion of the crawlspace, the first floor, *and the attic*.

In our opinion, the building has been well maintained and is in generally good condition. The conditions noted are typical for a building of this use and vintage, and the recommended remedial repairs should be considered routine maintenance and preservation measures for this unique structure.

The building is safe for current occupancy and use. Repairs to specific portions of the building are recommended including repairs to the exterior siding and wood framing, re-grading along the rear of the building, repair of the exterior foundation wall, and the replacement of stone piers and installation of a slab on grade in the crawlspace.

Additional investigation is recommended to determine if and to what extent active insect infestation is occurring, and the feasibility of installing a lightning protection system.

The basis for this opinion, specific details, recommendations, limitations and qualifications regarding our findings are stated in the remainder of this report.

PURPOSE

The purpose of this report is to summarize the results of our review of the condition of the structural elements of the building. The purpose of the review was to determine the suitability of the building for occupancy, identify structural deficiencies, and recommend requirements for the repair of the conditions noted.

THE SCOPE OF THE INVESTIGATION

The investigation consisted of a walk-around survey of the exterior of the building and the accessible portions of the interior, including the crawlspace, first floor, *and attic level*. The survey was conducted with Evelyn Cole Smith AIA, CME Architecture, Inc. on January 7, 2014, *and a follow up survey of the attic was conducted on June 13, 2014*.

THE DESCRIPTION OF THE STRUCTURE

The building was constructed in 1881. The building is constructed of a blend of hand hewn and rough sawn post-and-beam timber framing with traditional pegged mortise and tenon joinery. The one-story building includes a main level over a crawlspace. The crawlspace is accessed by an interior hatch. The supports in the crawlspace consist of dry laid stacked stones. The foundation walls consist of stacked cut stones. The floor of the crawlspace is dirt.

An access hatch in the ceiling near the front door provides access to the attic. *The roof rafters and ceiling joists consist of sawn lumber and the roof sheathing consists of wide sawn planks except above the front portion where the sheathing consists of spaced 1x3 boards*.

A previous addition was made at the east side, and it appears that either an addition was made along the front portion or a previous porch or patio was previously enclosed.

OBSERVATIONS OF THE EXISTING CONDITIONS

Building Exterior

The building exterior includes painted wood clapboard siding and trim. The condition of the exterior is what would be expected for a building of this construction and vintage. The exterior painted wood siding and trim is in generally good condition, some peeling and missing paint was noted. No evidence of structural distress or significant deterioration was noted, except at the rear of the building where the wood siding and framing is noticeably deteriorated as a result of the proximity to the finished grade.

Some of the foundation stones along the west elevation are displaced relative to the exterior wood wall. No evidence of recent structural distress was noted in the foundation.

A portion of the concrete foundation at the northeast corner is eroded, presumably due to freeze-thaw or scaling damage caused by the "splash-zone" from the gutter and downspout.

Main Level:

The condition of the interior finishes is typical for a building of this construction and vintage. No evidence of significant structural damage or deterioration was noted except as follows:

- A noticeable dip occurs in the floor at the northwest corner of the classroom.

Crawlspace:

The condition of the crawlspace is typical for a building of this construction and vintage. The floor framing is comprised of the original timber framing. The timber beams bear directly on the loose laid flat stone piers. The surface of the dirt floor is irregular.

Access into the shallow crawlspace was limited to the location of the hatch due to the low headroom. Therefore, observations of particular conditions were limited to the hatch vicinity. The timber framing that was viewed is in generally good condition; no significant areas of structural distress or deterioration were noted.

Attic:

The rafter and ceiling framing are typical for a building of this construction and vintage and are in good condition. No evidence of deterioration or significant distress was noted. No evidence of water infiltration was noted. At the brick chimney, the mortar joints below the roof require repair. Loose fill insulation occurs in some, but not all, of the ceiling joist bays. It was noted that the decorative "door" in the front gable end is not screened to prevent ingress of insects, etc.

Roofing:

The asphalt roofing shingles are in fair condition. Moss was found to be growing along the eastern slope of the roof, below where large trees overhang the roof.

OPINION AND RECOMMENDATIONS

In our opinion, the building has been well maintained and is in generally good condition. The conditions noted are typical for a building of this use and vintage, and the recommended remedial repairs should be considered routine maintenance for a building of this vintage.

Current Use
The building is safe for current occupancy and use.

Recommended Repairs
The repair of timber framing members and their connections can be done in a variety of ways depending on the specific condition. Timber repairs can include the use of structural epoxy to patch deteriorated areas, structural epoxy and reinforcing dowels to splice and connect timber members, supplemental framing to "sister" the member or reduce the span, and bolted steel plates to strengthen timber connections.

Recommended repair work includes the following:

Building Exterior
The exterior finishes will require routine maintenance at regular intervals including painting of wood siding and trim, maintenance of gutters and downspouts, re-pointing deteriorated joints between foundation stones, and repair and replacement of roofing shingles. The age of the roofing is unknown, but, in general, asphalt roofing shingles have an expected service life of approximately 20 years.

The exterior finished grade should be lowered along the rear of the building to provide a minimum clearance of 8" to the wood siding and framing. The deteriorated wood framing and siding should be removed and replaced.

The damaged portion of the concrete foundation at the northeast corner should be repaired with concrete to restore the foundation wall to its original condition.

Main Level
The noticeable dip in the Main Level floor at the northwest corner of the classroom should be further investigated. This could be accomplished by removing the floor sheathing in the vicinity to observe the condition of the framing directly below this location.

Crawlspace
The limited headroom in the crawlspace will make it difficult to implement repair work. The loose laid flat stone piers may not continue to provide reliable service into the future, so removal and replacement should be considered. The new piers could consist of mortared masonry, steel pipe columns, or preservative treated wood posts. New concrete footings should be installed under the replaced pier locations.

The crawlspace should be cleaned and a concrete slab over vapor barrier should be installed throughout.

OPINION AND RECOMMENDATIONS, CONT'D.

Attic:

The mortar joints in the brick chimney should be repaired below the roof. The decorative "door" in the front gable end should be repaired to prevent ingress of insects, etc.

Additional Investigation

Additional investigation is recommended to further assess specific conditions, including the following:

1. A thorough inspection of the entire building should be made by a qualified insect exterminator to determine if, and to what extent, insect infestation has occurred and whether or not there is active ongoing insect infestation.
2. A qualified lightning protection company should be consulted to provide an opinion regarding the feasibility of installing a lightning protection system.

LIMITATIONS

1. This report is based on our visual observations of conditions that were readily accessible at the time of our review. Conditions may exist which are hidden from view that could affect some of the recommendations contained in this report. The recommendations and conclusions reached, therefore, are subject to revision if and when additional evidence or information is available.
2. The findings associated with this report are limited to the condition of the visible structural elements. We did not review any other elements of the architectural, structural, mechanical, electrical, plumbing or fire protection systems, and no opinion regarding the adequacy of these systems is implied or intended.
3. Our investigation of the condition of the building was not exhaustive. As is common for this type of service, we limited our review to typical elements that were repetitively used. This report does not express or imply a warranty of any of the building elements or of the entire structure.
4. This report does not include the discovery, testing, monitoring, handling, removal, or disposal of, or exposure of persons to, hazardous materials in any form at the project site, including, but not limited to asbestos, asbestos products, polychlorinated biphenyl (PCB) or other toxic substances.

End of Report

Submitted by
The Di Salvo Ericson Group
Structural Engineers, Inc.

Bruce D. Richardson, P.E.

APPENDIX

PHOTOGRAPHS OF EXISTING CONDITIONS

KEY PLAN

Rear (north) Elevation – note proximity of grade to siding

Northwest corner

Northwest corner – note deteriorated siding

Northwest corner – note deteriorated siding

Concrete Foundation at Northeast corner

Note deteriorated concrete

Displaced foundation stone

Foundation wall transition

Crawlspace

Crawlspace

Crawlspace

Crawlspace

Typical Roof Rafter Framing

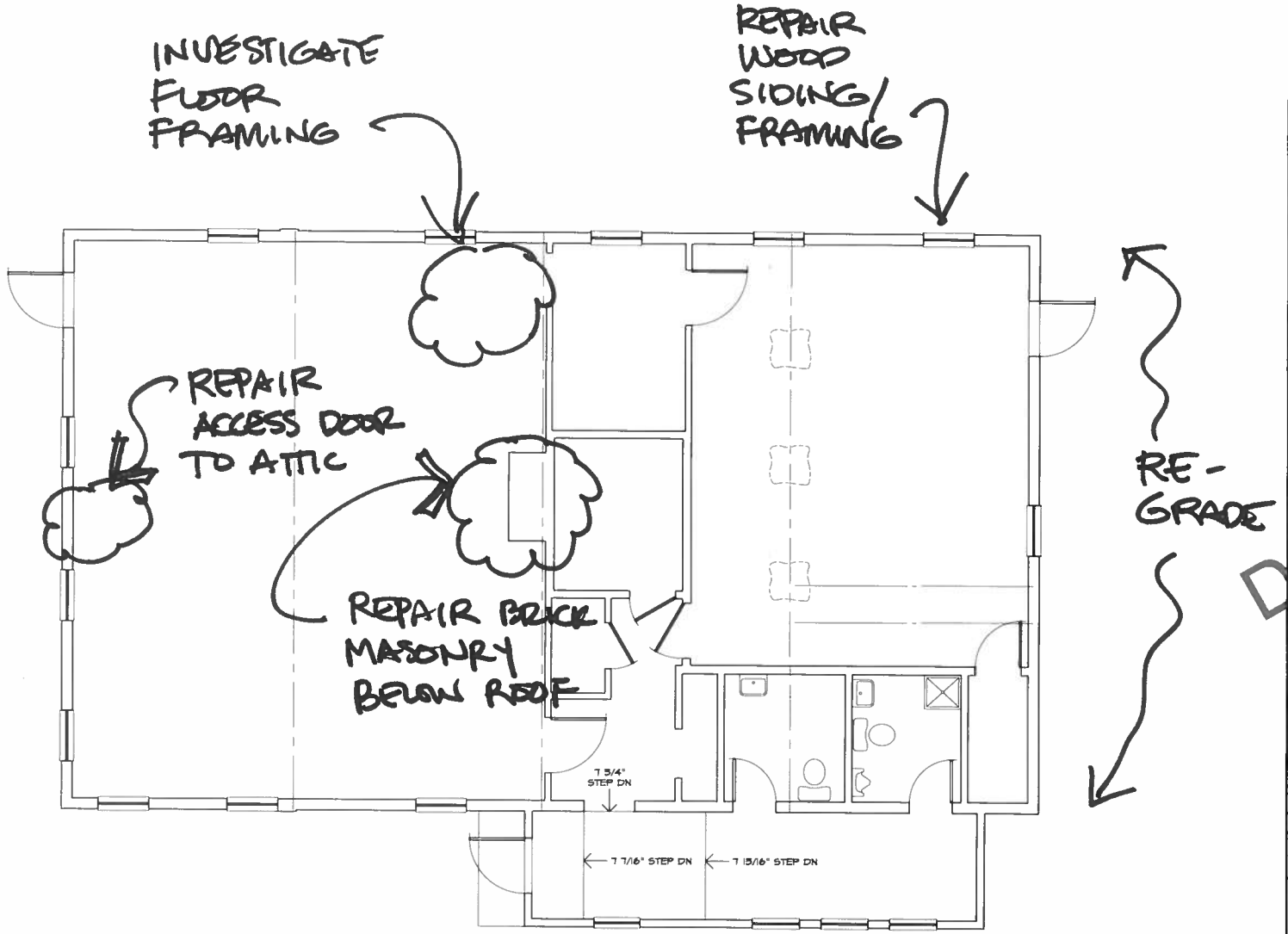
Typical Attic Condition

Typical Attic Condition

"Door" at front gable, note wasp nest near opening

Brick Chimney

Roofing condition at east slope



KEY PLAN - STRUCTURAL REPAIR

1 / SK-1 FIRST FLOOR PLAN
SCALE: 1/4"=1'-0"

CME

CME Architecture, Inc.

32 Crabtree Lane, Wrentham, CT 06281
333 East River Drive, East Hartford, CT 06108
50 Elm Street, Southbridge, MA 01550
Phone 888-291-3227
www.emeengineering.com

STAMP

PROJECT

S. EGREMONT VILLAGE SCHOOL

42 MAIN STREET
S. EGREMONT, MA
01258

PREPARED FOR

TOWN OF EGREMONT

171 EGREMONT PLAIN ROAD
EGREMONT
MA 01258
(413) 528-0182

DRAFT

REVISIONS

	Date	Description

SHEET TITLE

EXISTING CONDITIONS

1st FLOOR PLAN

PROJ. NO.	-
SCALE	AS NOTED
DATE	January 10, 2014
DESIGNED	-
DRAWN	Clinton Richmond
CHECKED	-

SHEET

SK-1

1 of 2

APPENDIX C PLUMBING, MECHANICAL AND ELECTRICAL EVALUATION

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EXISTING PLUMBING/MECHANICAL/ELECTRICAL EVALUATION:

Sanitary Waste System:

Located within the slab the cast iron sanitary system is routed to the bathroom plumbing fixtures. Vertical piping from the plumbing fixtures appeared to be pvc and cast iron piping. The piping appeared to be in fair condition with signs of leakage. Replacement is warrented due to condition.

Domestic Cold Water System:

Domestic cold water piping enters the mechanical room from below is routed to the double sink, hot water heater and bathrooms. The piping is not insulated and runs exposed in the boy's bathroom. The piping appeared to be in good condition with no signs of deterioration/leakage.

Plumbing Fixtures:

Wall mounted lavatories were found in the boys/girls bathrooms. Piping beneath the fixture appeared to copper with braided steel connections for domestic and steel to pvc for sanitary. Corrosion is present on the braided connections and piping. The lavatories appeared to be over twenty five (25) years old and in fair condition. Replacement is warranted due to age, condition and water consumption.

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The bathrooms are equipped with a tank type water closets located adjacent to the lavatory. The water closets are manufactured by the Kohler/Mansfield Companies and appears to be in fair condition. Corrosion is present at the braided connection and shut off valve. Replacement is warranted due to age, condition and water consumption.

A wall hung urinal was observed in the boys bathroom. The urinal is manufactured by the American Standard Company and appears to be over twenty five (25) years old. The shut off valve assembly appeared to be recently installed and in good condition. Replacement of urinal is warranted due to age.

A service sink is located within the boys room. The domestic piping is non-insulated copper with braided connections and shut off valves. The sink and valves appeared to be in poor condition with corrosion present. Replacement is warranted due to condition.

A double bowl stainless steel sink is located within one of the classrooms. The domestic piping is non-insulated copper with braided connections and shut off valves. The sink and valves appeared to be over twenty five (25) years and in fair condition. Replacement is warranted due age and water consumption.

An electric domestic hot water heater is located in the storage closet. The electric heater is manufactured by A.O. Smith Company and has a capacity of forty (40) gallons. Domestic piping is copper and not insulated. The unit appears to be in good condition. Replacement is typically within ten (10) years.

Fuel Oil System:

Fuel oil is provided by a underground fuel oil tank. The fuel lines are routed in the crawlspace to the oil burner. An line filter and shut off valve are present and appear to be in fair condition. Replace is warrented due to furnace change out.

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Forced Hot Air System:

Space heating is provided by an oil fired furnace located in the mechanical room. The furnace is an Williamson Oil Saver with matching fuel oil burner. During startup the furnace "puffed back" within the mechanical room. The furnace and burner unit to be over twenty five (25) years old and in poor condition. Replacement is warranted due to condition, age and efficiency.

Breeching for the furnace is routed to a chimney stack. The breeching has a barometric damper and minor corrosion at the connection point. Replacement is warranted due to furnace change out.

Combustion air for the furnace is provided by a duct that communicates with the crawl space below. No deterioration was present. Replacement is warranted due to furnace change out.

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Metallic distribution ductwork from the furnace is routed to the classrooms and general areas. The supply and return ductwork mains off the furnace is non-insulated rectangular duct that directly feeds the diffusers. The return ductwork is exposed in the classrooms and appeared to be obstructed. Each duct appeared to be in good condition with no records or evidence of duct cleaning.

Air distribution within the space is provided through ceiling/wall mounted supply grilles. The grilles appeared constructed of aluminum, over twenty five (25) years old and appeared to be in fair condition. Replacement is warranted due to age.

Two (2) wall mounted non-programmable thermostats manufactured by the Honeywell Company were observed. The thermostats are mounted near the duct mounted return grilles. Each grille appeared to be over twenty five (25) years old and in fair condition. Replacement is warranted due to age.

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Ventilation System:

Exhaust for the bathrooms are provided by ceiling mounted exhaust fans manufactured by the Nutone Company. The fans are currently non-operational and over twenty five (25) years old. Replacement is warranted due to condition and age.

Electrical Distribution Systems:

The electrical service entrance for the South Egremont School is located on the west side of the building. The service wires are routed overhead from a pole located on the adjacent property and from there to a utility pole on Main Street. The wires are connected to the service entrance conductors just below the eave. The wiring/conduit runs down the side of the building and terminates at a combination meter / service disconnect. The wiring/conduit then runs back up parallel to the service entrance wiring/conduit and into the building terminating at the electrical panel located in the copier room. The electrical service appears to be in good condition.

The electrical panel is a Square D QO load center rated at 100 amperes at a 120/240V, 1-phase, 3-wire voltage configuration. It is recessed into south wall of the copier room.

Dependent upon the actual amount of electrical load increase due to envisioned upgrades, the 100A electrical service rating for the building would appear to be adequate.

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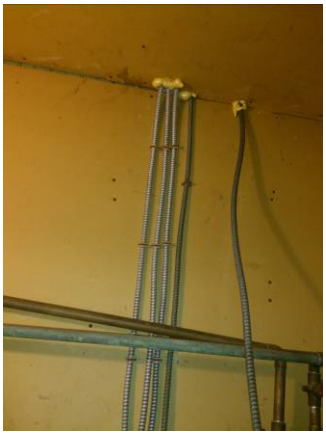
Wiring / Conduit:



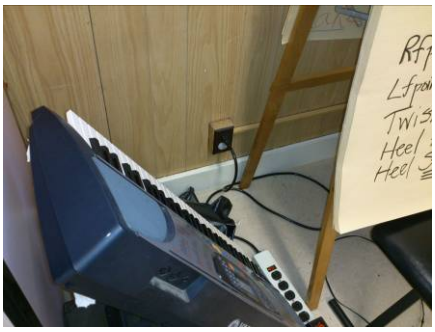
Branch circuit wiring consisted of armored cabling (AC) and non-metallic sheathed cable. The vast majority of the cabling was observed to be concealed behind finished surfaces. Electrical wiring was also installed in surface mounted raceway (wiremold) in a few areas.

It would appear as some of the branch circuit AC cabling has been updated in the past. The existing AC cabling is various ages and in good overall condition.
Also observed was an old disconnect switch enclosure located in the domestic water heater closet. This disconnect enclosure is currently being utilized as a junction box. The cover is not securely closed to prevent unauthorized access. Also one of the wire connectors outer plastic covering has broken off the wire. This disconnect should be removed and replaced with a proper junction box installed and the defective wire connector replaced as well.

Wiring Devices:

The receptacles within the building are type NEMA 5 duplex receptacles. The quantity is limited and the locations do not appear to be user friendly and therefore are causing the use of receptacle power blocks and extension cords to be utilized in a couple of areas. The few receptacles the building does contain are primarily recessed mounted with a few receptacles being installed in surface mounted raceway (wiremold). No receptacles were observed within the restrooms. The lone kitchen counter top receptacle was a

GFCI. No receptacles were observed in the domestic water heater closet or mechanical room.



The existing receptacles should be removed and replaced due to their age. Additional GFCI receptacles should be installed in the kitchen counter top, domestic water heater closet and mechanical room as well as an exterior weatherproof receptacle located near the proposed mechanical condensing unit to comply with current code. Tamper resistant GFCI receptacles should be installed in the restrooms to comply with current code.

The existing receptacles should be removed and replaced with tamper resistant receptacles. Additional tamper resistant receptacles should be added throughout the building in addition to the ones noted above to eliminate the use of receptacle power blocks and extension cords.

Light switches observed within the building appear to be a combination of surface mounted and recessed mounted devices. The condition varies between good to fair as it appears as some have been replaced. The switches are single pole and control the light fixtures within a respective room. Two switches located at the from exit door of the classroom control two rows of lights while a second bank of three switches located on the opposite wall control the remaining three rows of lights.

Additional single pole and three way switches and associated wiring/conduit should be installed so that lighting can be switched from all entry/exit points of the rooms.

Lighting:

Lighting within the building consisted primarily of 1’ x 4’ surface mounted fluorescent light fixtures.

Storage rooms and mechanical room lighting consisted of ceiling or wall mounted porcelain socket fixtures utilizing compact fluorescent lamping.

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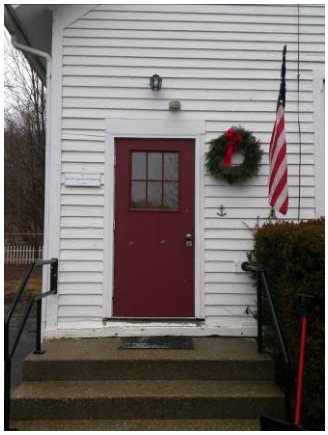
Surface mounted incandescent light fixture missing the lens was observed in the copier room.

Exterior lighting was limited to a wall sconce located above the front entry door and a wall sconce located adjacent to the side entry door.

Existing light fixtures are inefficient and at the end of their useful life expectancy. All lighting should be removed and replaced with new energy efficient fixtures. Exterior light fixture should be added to rear door.

Emergency / Egress Lighting:



Emergency / Egress lighting in the building consisted of three combination emergency lighting / exit signs. One located above the front exit door, one located above the side exit door and one located adjacent to the rear emergency exit door.

The existing combination units have remote capacity and all three have a single remote emergency light head connected to them. These remote emergency light heads are located over each of the three exit doors of the building.

The combination emergency lighting / exit signs appear to be in good condition. However, the dual head lens require adjustment as one of the lens are pointing upward on a couple of the fixtures.

Additional emergency lighting and exit signs are required to be installed to meet current code requirements.

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Fire Alarm System:

The fire alarm control panel (FACP) for the building is a combination fire alarm and burglary control panel located in the mechanical room. The fire alarm system appears to be a wired/wireless system consisting of two zones with an RF receiver mounted above the FACP. Zone one monitors the smoke detectors and zone two the heat detectors.

Detection devices consisted of smoke detectors located in the classroom, kitchen and copier room. Heat detectors were located in the restrooms, mechanical room and domestic water heater closet.

Initiation devices consisted of pull stations located adjacent to the front and rear exit doors and one located in the side door hallway near the exit door.

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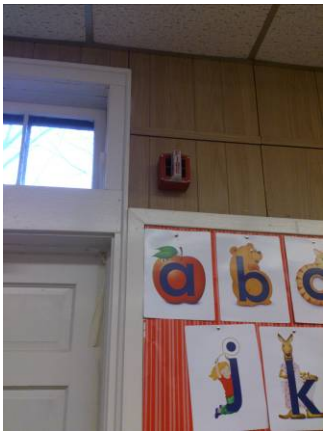

Notification devices consisted of horn/strobes located in the restrooms, classroom and kitchen. The restrooms horn/strobes are to have been installed in the last few years. The remaining horn/strobes see to have been in place a number of years.

Also observed was a plug in carbon monoxide detector. This detector is located adjacent to the rear exit door.

No fire department knox box was observed.

The FACP and detection devices appear to have been in place ten to fifteen years with the notification devices in the classroom and kitchen fifteen to twenty. The system seems to be in good to fair condition dependent upon device but is at the end of its useful life expectancy. The system should be removed and replaced with additional detection and notification devices added.

Carbon monoxide detectors connected to and monitored by the fire alarm system should be incorporated into any fire alarm system upgrade. In the interim, carbon monoxide detectors should be installed within the mechanical room to provide the earliest possible alarm.

Security Systems:

The FACP is a combination fire alarm and burglary control panel and is monitoring the security system as well. The keypad for the security system has been mounted to the FACP enclosure door.

It appears as the security system consists of door contacts. No motion or break glass detection devices were observed.

The security system appeared to be in good condition. Consideration should be given upgrading the system to allow for the installation of motion detection and break glass sensor

devices. The arm/disarm keypad should be located at one of the two entry doors in lieu of the mechanical room.

Telecommunications:

The building contained two different telecommunications systems. It appears as standard telephone wiring is routed overhead from a utility pole on Main Street and down the front and into the building. It seems as this service is for the telephone system for the building only with the wiring extending from the system network interface boxes to telephone jacks located within the building. The telephone jacks are located in inconvenient locations and the wiring is not properly secured in place in some instances. Telephone jacks were also located in the FACP for the fire alarm and security system monitoring.

The second telecommunications system observed is a broadband high speed internet system. Wiring is routed overhead from a utility pole on Main Street to the front of the building. The wiring then follows the eaves of the building and then down the side of the building near the side entry door and into the building.

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PLUMBING SYSTEM DESIGN CONCEPT:

Proposed Plumbing System:

The majority of the components that are apart of the plumbing system appear to be in fair condition. Given the useful service life of this equipment and current condition, cost of service and replacement parts along with labor to maintain units could become cost prohibitive. Energy savings will be present with an introduction of proposed components due to the modern day concern for savings and operations. Our office recommends completely removing all the plumbing fixtures and miscellaneous piping.

Our office recommends the following proposed Plumbing System:

Replace existing plumbing fixtures with low consumption models.

Insulate domestic piping.

MECHANICAL SYSTEM DESIGN CONCEPT:

Proposed Mechanical System:

The majority of the components that are apart of the mechanical system appear to be in poor condition. Given the useful service life of this equipment and current condition, cost of service and replacement parts along with labor to maintain units could become cost prohibitive. Energy savings will be present with an introduction of proposed components due to the modern day concern for savings and operations. Our office recommends completely removing all the mechanical systems with exception to the ductwork.

Our office recommends the following for the Mechanical System:

Replace furnace with high efficiency oil fired furnace.

Replace thermostats.

Clean supply/return ductwork and replace grilles.

Add direct expansion cooling via high efficiency air cooled condensing unit and coil. (optional)

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ELECTRICAL SYSTEM DESIGN CONCEPT:

Proposed Electrical System:

Emergency and egress lighting is insufficient and does not appear to comply with code. The existing lighting fixtures and fire alarm system appear to be beyond their useful life expectancy. Consideration should be given to the installation of addition receptacles and light switches.

Our office recommends the following proposed Electrical System:

Provide additional emergency and egress lighting units.

Replace existing light fixtures with energy efficient fixtures.

Replace existing fire alarm system.

Provide additional carbon monoxide detectors monitored and powered by the fire alarm system.

Provide security system motion detection and break glass sensors.

Provide additional receptacles and light switches.

Provide additional telephone jacks.

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ESTIMATED DESIGN COSTS

*Does not include hazardous materials

*Does not included electrical service upgrade

Proposed Plumbing System:

- Demolition of the existing plumbing fixtures: $750.00
- Proposed plumbing fixtures and related piping: $3,000.00
- Proposed pipe insulation: $600.00
- Subtotal: $4,350.00
- 10% Overhead: $435.00
- Subtotal: $4,785.00
- 10% Profit: $478.50
- Total: $5,263.50
- Say: $5,500.00

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Proposed Mechanical System:

- Demolition of the existing furnace and accessories: $800.00
- Demolition of the existing thermostats and grilles: $350.00
- Demolition of the existing exhaust fans: $150.00
- Proposed furnace and accessories: $5,000.00
- Proposed programmable thermostats: $300.00
- Proposed exhaust fans: $500.00
- Proposed duct cleaning: $1,000.00
- Subtotal: $8,100.00
- 10% Overhead: $810.00
- Subtotal: $8,910.00
- 10% Profit: $891.00
- Total: $9,801.00
- Say: $10,000.00

- Proposed cooling option: $7,000.00

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Proposed Electrical System:

• Demolition of abandoned/obsolete electrical equipment, Wiring and conduit:	$ 700.00
• Proposed energy efficient light fixtures, emergency And egress lighting upgrade:	$ 8,000.00
• Proposed fire alarm / carbon monoxide upgrade:	$ 7,500.00
• Proposed security system upgrades (devices only):	$ 1,600.00
• Miscellaneous electrical connections, equipment, wiring, conduit, etc:	$ 1,000.00
• Proposed receptacles and switches upgrade:	$ 1,200.00
• Proposed telecommunications upgrade:	$ 500.00
• Subtotal:	$ 20,500.00
• 10% Overhead:	$ 2,050.00
• Subtotal:	$ 22,550.00
• 10% Profit:	$ 2,255.00
• Total:	$ 24,805.00
• Say:	$ 25,000.00

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